

CENTER FOR INSTITUTIONAL REFORM AND THE INFORMAL SECTOR

University of Maryland at College Park

Center Office: IRIS Center, 2105 Morrill Hall, College Park, MD 20742

Telephone (301) 405-3110 • Fax (301) 405-3020

E-mail: info@iris.econ.umd.edu

World Wide Web: <http://www.inform.umd.edu/IRIS/>

Understanding Rural Institutions

Satu Kähkönen

Working Paper No. 215

June 1998

This publication was made possible through support provided by the U.S. Agency for International Development, under Cooperative Agreement No. DHR-0015-A-00-0031-00 to the Center on Institutional Reform and the Informal Sector (IRIS) and administered by the Office of Economic and Institutional Reform, Center for Economic Growth, Bureau for Global Programs, Field Support and Research.

The views and analyses in the paper do not necessarily reflect the official position of the IRIS Center or the U.S.A.I.D.

Author: Satu Kähkönen, IRIS Center, University of Maryland, College Park.

Understanding Rural Institutions

Satu Kähkönen

Center for Institutional Reform and the Informal Sector (IRIS)
University of Maryland
2105 Morrill Hall
College Park, MD 20742
e-mail: satu@iris.econ.umd.edu

Paper prepared for
“World Bank Rural Week”
March 25-27, 1998
Westfields Conference Center
Chantilly, VA

1. Introduction

The influence of institutions is a constant and sometimes worrisome factor in all development work. The task of reforming or strengthening institutions is never easy even when all parties agree that such an outcome is desirable for the achievement of development objectives.

The rural sector focused heavily on the reform of parastatals in the 1980s since many of these entities were seen as inefficient and ineffective and detrimental to the development of the agricultural sector. Now the focus has changed and the challenge is to effect institutional reform in a more pluralistic environment where the interface between public, private and civil society institutions is taking place. Institutional challenges appear more complex as the public sector downsizes; the private sector takes over former public sector functions or enters into partnership; and community and minority groups express their needs and direct their destiny in a participative and joint management format.

The current emphasis on rural development makes the institutional challenge all the more daunting for the number of actors has increased and the institutions themselves are in a state of flux. Yet institutions and their contribution to development objectives cannot be ignored.

This paper will discuss the importance of institutions and institutional arrangements for agricultural and rural development and illuminate how one may approach institutional analyses in the rural sector. The presumption here is that understanding institutions is fundamental for crafting appropriate strategies for development. It will also be emphasized that there is not generally a single set of institutions that is always "right," and that the most appropriate institutional arrangement varies according to circumstances. Also, how one might approach the reform of institutions will be briefly discussed.

2. Institutions and Institutional Analysis

Institutions are often confused with organizations. While organizations are one type of institution, the basic concept of institutions is something more fundamental than organizations. What are institutions and how can one analyze whether existing institutional arrangements are appropriate in terms of promoting efficiency and equity in the economy? This section attempts to answer these questions.

2.1 What are Institutions?

Institutions refer to formal and informal rules and practices that govern the behavior and actions of individuals. They are rules and practices that are "recognized and frequently followed by members of the community and that impose constraints on the

actions of individual members” (Clague 1997).¹ In other words, to be considered as institutions, the rules have to be generally, though not uniformly, obeyed. If the rules were generally ignored, they would not be referred to as institutions.

Institutions can be many things. They can be sets of rules by which an organization functions.² They can be rules governing the operation of markets. They can also refer to a set of property and contract rights and other rules governing exchanges in a society. They may be cultural norms of behavior. All these rules and practices can be either formally written down and enforced by government officials or unwritten and informally sanctioned.

There are layers of institutions -- operational, governance, and constitutional layers. Operational rules are the laws, regulations, and other rules which affect the day-to-day decisions of individuals in, for example, the organizations and markets in which they function. Governance rules are the rules about who makes and applies those rules and how this is done. Then constitutional rules are the rules that constrain rule-making—this is at the level of the constitution.

Institutions are important because they coordinate economic activity both within and between such organizations as farms and small businesses, farmers’ associations and cooperatives, and the Ministries of Agriculture. They influence the many choices that individuals make in these situations. They structure individuals’ and firms’ incentives for innovation, production, and exchange and, thereby, either impede or enhance economic growth and development (Olson and Kähkönen 1998).³ They also affect growth through their effects on people’s expectations and preferences.

Given the importance of institutions for economic development, how can one assess whether the existing institutional framework is appropriate and growth enhancing?

2.2 Institutional Analysis

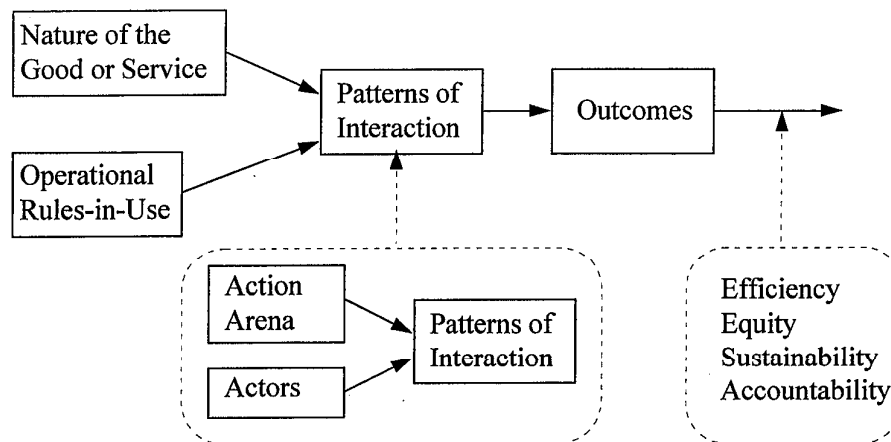
To assess whether the existing institutional framework is creating desired incentives and to identify ways to adjust this framework to produce the desired outcome, an analysis of existing institutional arrangements needs to be carried out. An institutional analysis involves assessing the impact of institutions on the behavior of a group of individuals and then the outcomes of this group behavior (Ostrom 1995). Figure 1 illustrates this.

¹ Institutions may be liberating in a sense that they may make a society better off than it would be in the absence of rules. However, at the level of an individual, institutions still constrain behavior.

² Organizations are collections of rules by which individuals operate together in cooperate and collective activities—hence, the use of this word in common parlance to denote firms, government agencies, associations, etc. For further discussion, see section 3.3.

³ Institutions can create incentives for actions that are beneficial to society as a whole (for example, production and exchange) but also for actions that are harmful to society as a whole (for example, corruption and rent seeking).

Figure 1. Institutional Analysis



As Figure 1 indicates, outcomes of group interaction depend on the nature of the good or service the group is to provide, the institutions (that is, the rules) which constrain individual activity in this setting, and the motivations of individuals. Of these, the nature of the good or service and the motivations of individuals are relatively fixed and hard to change. By contrast, institutions can be adjusted. An institutional analysis attempts to understand how, given the nature of the good or service and motivations of individuals, changes in the institutions would affect the outcome. The resulting outcome can then be evaluated according to a number of criteria, including efficiency, equity, sustainability, and accountability.

Given all the factors that influence the outcome, a number of questions need to be raised and answered when analyzing institutional arrangements. These include:

- What is the nature of the good or service to be provided?
- Who are the individuals (or actors) whose decisions will influence the outcome? What is their stake in the outcome?
- What institutions (that is, rules) influence decision-making?
- What incentives and disincentives do these institutions create for individuals making decisions?
- What have been or are the expected outcomes? Are these outcomes desirable in terms of efficiency, equity, sustainability, and accountability?
- What changes to institutions might alter incentives in ways that would lead to more desirable outcomes?

Institutional analysis can be carried out at different levels. It can be carried out at the level of the agricultural sector focusing on rules and regulations that govern all agricultural activities. It can also be conducted at the sub-sector level analyzing, for example, the marketing arrangements for different food and cash crops, or agricultural inputs. Finally, institutional analysis can be carried out at the organizational level such as the Ministry of

Agriculture or a water-users association. In each case, the scope of the analysis varies according to the focus of the study.

3. Institutions and the Provision of Goods and Services

The appropriate organizational design for the provision of a good or service depends, first of all, on the characteristics of the good. Whether the provision of a good or a service is most efficiently coordinated through markets, collective action, or a hierarchy depends in particular on the degree of rivalry and excludability of the good or service (Kessides 1993, Ostrom, Gardner, and Walker 1994, Picciotto 1995).

3.1 Characteristics of Goods and Services

Goods and services can be distinguished by two characteristics: the degree of excludability and the degree of rivalry. Excludability refers to the ability of suppliers of a good or service to exclude from consumption those who are not willing to pay for it. High excludability of goods and services makes it possible to exchange them in markets, while low excludability makes markets work less well because of free-rider problems. If people who did not pay for the good cannot be excluded from the consumption of the good, people will have an incentive to wait for others to acquire the good and then free ride on their efforts. Rivalry in turn refers to the extent to which one person's use or consumption of a good reduces its availability to other people. Non-rival goods and services can be consumed jointly since "one man's consumption does not reduce some other man's consumption" (Samuelson 1954). High rivalry in turn implies individual consumption.

Goods and services can be classified into four categories based on their degree of excludability and rivalry. A simple taxonomy of different types of goods and services is presented in Table 1.

At the opposite ends of the spectrum are private and public goods and services. Private goods and services are highly rival and highly excludable. Only one person can use these goods and services at a time and it is not costly to exclude others from their consumption. Examples of private goods are fertilizer, hybrid seeds, and agricultural outputs such as maize and wheat.⁴ Public goods in turn exhibit both low rivalry and low excludability. Several people can use these goods and services at the same time and it would be very costly to exclude people from their consumption. Examples are rural roads, surface water, and basic agricultural research.

In the middle are toll goods and common pool goods. Toll goods can be used jointly by many people but it is also possible to exclude non-payers from their usage. Examples of toll goods are piped water systems, telecommunications networks, and some agricultural

⁴ To the extent fertilizer run-off is an issue, the use of fertilizer creates an externality and makes fertilizer a common pool good.

Table 1. A Simple Taxonomy of Goods and Services

		Excludability	
		High	Low
Rivalry	Low	Toll goods	Public goods
	High	Private goods	Common pool goods

extension efforts such as training workshops. Finally, common pool goods are highly rival—their supply is finite so that the use of them by one person will limit their availability to others—but at the same time, it is very difficult to exclude non-payers from their consumption. Examples of common pool goods include pastureland, ground water, and fisheries.

How can the provision of these different types of goods and services be coordinated?

3.2 Coordination Mechanisms

There exist three basic mechanisms to coordinate the provision of goods and services: markets, hierarchy, and collective action. The coordination of economic activities varies in each case.

In a *market*, economic activities are coordinated by exchange. Independent profit maximizing agents transact voluntarily with one another. These transactions are conducted at arm's length.

Under a *hierarchy*, coordination of activities is achieved by command and control. Transactions take place under the control of a unified command structure, authority flowing from the top of the hierarchy to the bottom. In this way, a hierarchy attempts to align individual interests for the corporate good.

In the case of *collective action*, economic activities are coordinated by a common interest. A group of individuals acts together in pursuit of a common goal. Decisions

involve many stakeholders who negotiate their differences and cooperate to achieve the shared goal.

3.3 Organizations

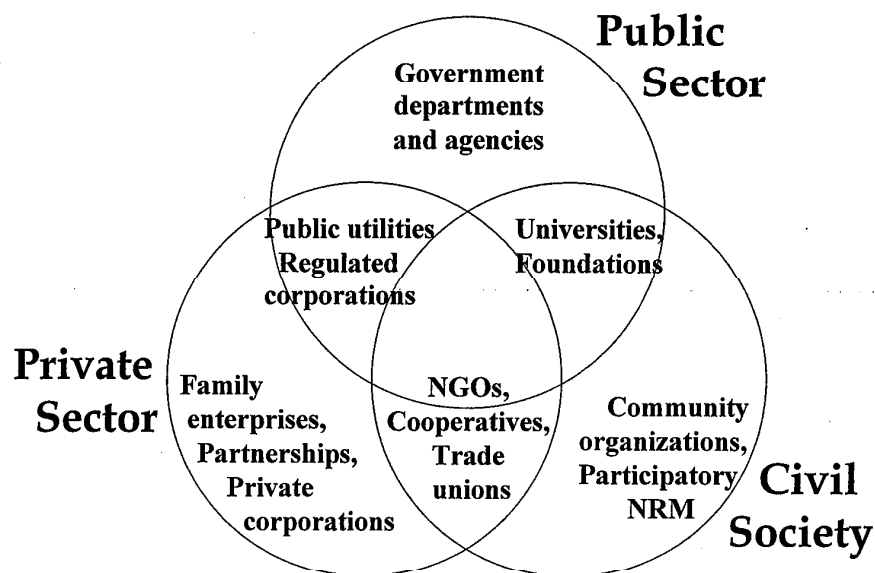
Organizations can, in general, be divided in general into private sector, public sector, and civil society organizations. In this trichotomy, the private sector refers to the

refer to different community associations, non-governmental organizations, and foundations which generally operate on a non-profit basis.

All these organizations comprise varying degrees of market-orientation, hierarchy, and collective action. In some cases, however, one coordination mechanism is dominant. Private sector organizations are primarily market-oriented. Public sector organizations are generally hierarchies -- large bureaucracies with several layers of officials. Civil sector organizations are typically characterized by collective action -- people are brought together by a common cause and working together to achieve it.

Other organizations, however, are hybrids. For example, public utilities such as public power or phone companies and large private firms are a mixture of hierarchy and market-orientation. Universities are hierarchies characterized by collective action. Agricultural cooperatives comprise of collective action and market-orientation: members form cooperatives to further a common cause to help them produce and sell their crops. Figure 2 depicts these various types of organizations.

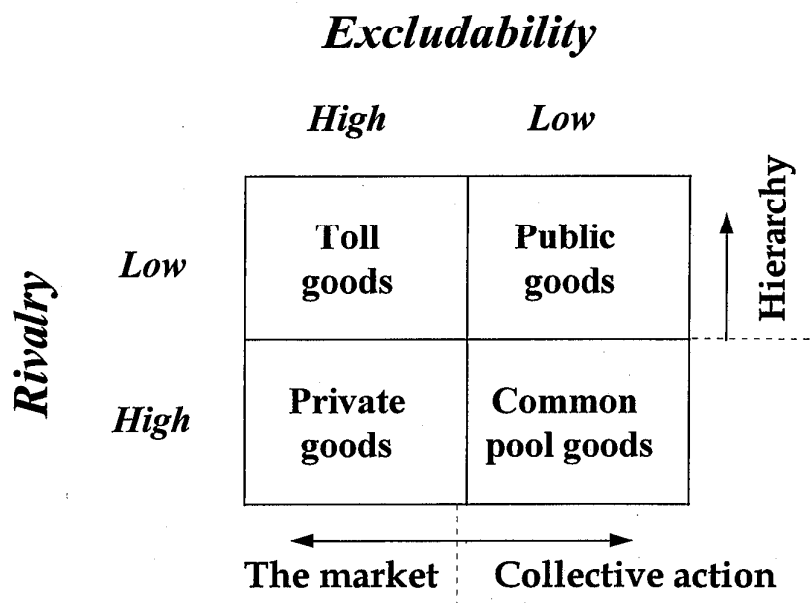
Figure 2. A Variety of Organizations



3.4 Coordination Mechanisms, Organizations, and the Provision of Goods and Services

Which kind of an organizational design is appropriate for the provision of which type of a good or service depends on which coordination mechanisms should be used in each case. Figure 3 summarizes the applicability of different coordination mechanisms for the provision of different types of goods and services.

Figure 3. Coordination Mechanisms and Provision of Goods and Services



Private goods are provided most efficiently by market-oriented organizations. Markets are responsive to consumer needs, make limited use of often-scarce administrative capacities, and avoid the high monitoring costs typical of hierarchies.

Large private corporations (market-oriented hierarchies) or government agencies (public hierarchies) in turn have comparative advantage in the provision of toll goods. The provision of these goods, such as the provision of electricity, typically entails large sunk costs and monopolistic features. This large scale of activity implies a need for hierarchy. It may also imply a need for hierarchy to create a regulatory framework and enforce the corresponding rules. At the same time, however, since the control of access is feasible due to excludability, these goods can be allocated through markets.

A public hierarchy or a civil society organization has a comparative advantage in the provision of public goods. In particular, hierarchy is needed to align individual interests with the common good if the group of beneficiaries is large. By contrast, if the group of beneficiaries is small enough, a good or service can be provided through collective action of beneficiaries, without government intervention. If the group size is small, free riding is easier to control and the benefits per group member are also large enough to induce cooperation (Olson 1965).

Finally, civil society organizations that are based on collective action have a comparative advantage in the provision of common pool goods (Ostrom 1990). Inadequate community participation in the provision of these goods could lead to a “tragedy of commons,” for example to over-exploitation of fisheries and natural pastures. Further, a market organization would not be able to provide the good without contractual rights to the common pool resource. Also, a hierarchy would not be ideal given the prohibitive costs involved in monitoring and controlling access to the resource.

Goods and services can also be coproduced. That is, they can be provided jointly by two or more different types of organizations, such as a public sector and a civil society organization (Ostrom 1996). Coproduction allows utilization of comparative advantages and synergies among different organizations, thereby promoting the provision of goods or services. For example, government agencies and community organizations can coproduce rural water and sanitation services: specifically, public officials and community members can work together to design and construct the service. Both groups can contribute inputs—labor, finance, materials, and technical advice—into this process. This kind of coproduction can improve the service delivery by alleviating fiscal pressures on government as well as expanding resources available for the community; providing means for revealing community members’ preferences so that the service provided matches the demand; increasing transparency and accountability within the government; and providing missing technical skills to the community (Isham and Kähkönen 1996, 1997, 1998).

An example of successful coproduction of water services comes from Mali (Dieng 1997). In the early 1970s, the Kayes region of Mali was a veritable “water pump junkyard.” The government that was in charge of the construction, operation and maintenance of water

systems had undertaken a number of water drilling projects in the region. However, given the long distances between villagers and regions, operating expenses quickly became too high for the government to handle. With dwindling public resources, the maintenance of wells came to a standstill. Spare parts for some types of pumps were no longer available except in the capital city or abroad. Finally, about 90 percent of the water pumps were out of order. As access to safe water dropped, the incidence of water-borne diseases in the region increased.

To improve access to safe water, the government decided to try a new approach to water delivery: jointly with donors it launched a water pump project that relied on coproduction of water services by government and community groups. Communities participating in the project were involved in the provision of water services from the design to the operation and maintenance of wells. At the beginning, information and sensitization campaigns were arranged throughout the region to mobilize the communities and promote their interest and commitment to this new approach to water delivery. Communities that were willing to co-finance the construction of a well with a hand pump and accept the required operation and maintenance responsibilities were eligible to participate in the project. These communities organized “village pump committees” to handle all matters related to pump acquisition, operation and maintenance. Selected community members in each community were provided training in financial management and in pump handling and operation. A toolkit needed for repairs was provided to participants and it was ensured that spare parts were available in nearby markets. The project proved to be a success: the sustainability of water services provided improved dramatically. Today, of the 1,120 hand pumps installed under the project, about 90 percent are in good working order without any assistance needed from the government. Also, the incidence of water-borne diseases has decreased in the region.

This section has described how one can analyze the impact of institutions on economic outcomes and assess the appropriateness of existing organizational arrangements for the delivery of different types of goods and services. Having identified shortcomings in the existing institutional framework, the next step is to adjust it. How can one carry out institutional reform?

4. Challenges of Institutional Reform

Reforming institutions is not an easy task. The challenges of institutional reform include the following: lack of recognition of the problem, path dependency and interdependency of institutions, rent-seeking and collective action problems, and lack of blueprints.

First, reform may be hindered because people may have difficulty in recognizing the problem with the existing institutional framework. People often have difficulty in recognizing or criticizing harmful rules in their own societies. In particular, those who have invested in the existing framework have difficulties seeing the virtue in change.

Second, the path dependency of institutional development and the existence of layers of interdependent institutions complicate the reform. Institutions created in the past impose constraints on institutional change in the present.⁵ Further, changing one institution may sometimes have unexpected effects because of interdependencies of institutions at different levels.

Third, since institutions are abstract public goods, the supply of institutions, like that of any public good, is subject to collective action problems such as rent seeking. Governments everywhere are vulnerable to rent seeking -- that is, lobbying by powerful groups or individuals for special privileges -- and, therefore, may not be able to provide efficient and equitable rules. While many reforms are win-win reforms in which everybody benefits, where reform creates "winners" and "losers," the potential "losers" are often successful rent-seekers. Since they benefit from the existing institutional arrangements and would lose from new ones -- they typically oppose the reforms. They are organized, known, and powerful, and their "voice" is heard. By contrast, the potential "winners" -- the groups that would benefit from reform -- are often large in size and unorganized. Precisely because the groups are large in size, organizing them is a challenge because of the free-rider problem. Because of the difficulty of excluding persons from the benefits of new institutional arrangements, once these are provided, each person is motivated not to contribute to the joint effort to reform the institutional arrangements but to free ride on efforts of others. Given these problems of collective action involved in getting the group organized, the "voice" of potential "winners" is often not heard.

Fourth, there are no blueprints that provide detailed and uniform instructions on how to proceed with reform. "Blueprint thinking" occurs whenever policy makers, donors, or scholars propose uniform solutions to a variety of problems, based on one or more successful examples, (Korten 1980). In reality, each case is different. Solutions need to be tailored according to prevailing circumstances. Rather than relying on specific blueprints, one must fall back on or rely on guiding principles instead.

5. Guiding Principles for Reform

Even though there are no blueprints, there are some general principles that will help guide the institutional reform process. There are a few prerequisites for conducting institutional reform successfully. These include the need to develop a reform strategy, identify change agents, and involve stakeholders in the reform process.

5.1 Reform Strategy

First, there needs to be a reform strategy. The first step in the reform process is to assemble policy-relevant information and develop a reform strategy. A strategy refers to a

⁵ Obviously, institutions created today will impose constraints on institutional change in the future.

plan for change: how one intends to get from where one is to where one wants to go. Examples of strategies include privatization, decentralization, empowerment, and civil service reform.

The institutional analysis and assessment guide the development of a strategy. Once it has been identified how institutions affect people's behavior, the costs and benefits of the "status quo" and various reform options need to be assessed. This involves evaluation of appropriate organizational arrangements and, among others, exploration of the following questions:

- What is the appropriate role of the private sector, public sector, or the civil society in the delivery of the good or service in question?
- Should the good or service be provided centrally or at the local level?
- Are the organizations that are responsible for the provision properly structured?

Answers to these questions guide the choice of a reform strategy.

5.2 "Reform Managers"

"Reform managers" are needed to lead the reform process. These individuals or organizations are responsible for moving the reform process forward. They can be officials of government ministries, civic leaders, or task managers working for international organizations.

5.3 Participation of Stakeholders

Finally, it is important to involve different stakeholders in the reform process. Stakeholders are people and groups that are likely to be affected--positively or negatively--by the proposed reform or those that can affect the outcome of the proposed intervention. Hence, stakeholders include not only the potential "winners" and "losers," but also other groups and people.

Ensuring that groups impacted by the reform and other stakeholders are educated about it and participate broadly in shaping and understanding it, will enhance the effectiveness of reform. Effective institutions usually reflect societal norms and behavior and have the broad support of groups and individuals impacted by them. If institutions are unrooted in local culture, they may lack the local "ownership" needed for their self-enforcement and their implementation and enforcement will be resisted. Participation of stakeholders in the reform process enhances the compatibility of institutions with users' needs, which in turn promotes rule obedience.⁶ Who then are the key stakeholders and in what way should they participate in the process?

⁶ At the same time there is a danger that participation creates new opportunities for rent seeking--in particular, if only selected stakeholders are invited to participate.

There are four basic types of stakeholder participation: information dissemination, consultation, collaboration, or empowerment. In the case of information dissemination, stakeholders are merely informed about decisions made. There is a one-way flow of information from the reform manager to stakeholders. In the case of consultation, the reform manager is soliciting views of different stakeholders, one-on-one, on decisions to be made. In the case of collaboration, the reform manager is bringing all relevant stakeholders to the same table and letting them collectively participate in the decision making. Finally, in the case of empowerment, the reform manager is transferring control over decisions and resources to stakeholders.

To identify the key stakeholders and in what way to involve them in the reform process, a stakeholder analysis needs to be carried out. A stakeholder analysis involves the identification of key stakeholders, assessment of their interests and how these are likely to affect the reform process and outcome.

In a stakeholder analysis, stakeholders are divided into four categories based on their influence and importance (Rietbergen-McCracken and Narayan 1997). Influence refers to the power which stakeholders have over the reform process. This power can be exercised by controlling the decision making process and by facilitating or hindering the reform otherwise. This power may originate from a stakeholder's status or from informal connections with leaders. Importance in turn refers to the group whom the reform is intended to benefit. Table 2 provides the classification of stakeholders according to these two criteria.

Table 2. Classification of Stakeholders

		Importance	
		High	Low
Influence	High	Primary participants	Potential problem-makers; monitor closely.
	Low	Facilitate participation	Keep informed

The classification of stakeholders according to their influence and importance helps to identify the strategies for their involvement. As Table 2 indicates, stakeholders that are both highly influential and highly important are the primary players in the reform process. Their involvement needs to be ensured for the reform to succeed. Stakeholders of high influence but of low importance are the potential problem or risk to the reform. They typically include the potential "losers." They need to be kept informed and their views acknowledged to avoid disruptions and conflicts. Stakeholders of low influence but high importance are potential "winners," beneficiaries from reform. It is important to have them participate in the reform process, though it may require special efforts and facilitation. Finally, stakeholders of low influence and low importance need not be brought into the reform process. They should, however, be kept informed of the developments.

In general, it is very important for the reform manager to establish credibility with respect to the proposed reforms. Also, it is essential to win the approval of the economic elite whose support is often necessary for the reform to succeed.

6. An Example of a Successful Reform Process

Cooperative law reform in Uganda provides an example of institutional reform process where some of the above guiding principles were put in practice (Kabuga 1994).

From 1946 until late 1980s Uganda's cooperatives were controlled in large part by the government. Government officers were expected to mobilize farmers and teach them the skills necessary for running cooperative organizations. The Minister of Agriculture had the power to appoint and dismiss cooperative officers, hold inquiries on cooperative affairs, prohibit loans, and override any decision-making. Many farmers thus believed that the government owned the cooperatives.

In 1984 the Ugandan government commissioned the Agricultural Cooperative Development International (ACDI) to conduct a study of Uganda's cooperative law. The study revealed that most cooperative members did not agree with government control of the cooperative movement. One of the recommendations made in the study was to reform the cooperative law and to grant complete autonomy to the cooperative movement. Government's role was to be reduced to registrations, audits, and enforcement of cooperative principles. While, it took a couple of years before these recommendations were acted upon, for cooperatives to become more autonomous of government ultimately became the reform strategy.

In 1986 the National Resistance Movement (NRM) took power in Uganda. The new government was committed to reforming the Ugandan economy that was ravaged by years of civil war.

The reform of cooperative legislation started soon after this change in government. The Uganda Cooperative Alliance (UCA), the national apex organization for

cooperatives, approached the new government and proposed the reform of cooperative legislation. The new government approved the proposal and entrusted the responsibility for the reform to the UCA.

The UCA believed that the successful reform of the current law was predicated on involving stakeholders in drafting the new law. In particular, it emphasized the need to solicit the views of members of primary cooperative societies. In March 1987 the UCA appointed a panel to work on the new legislation. This panel consisted of eminent cooperative members, academic experts on the cooperative movement, cooperative practitioners, and experienced government officers. This group was asked to identify the weaknesses within the existing cooperative law and the cooperative movement and to propose appropriate amendments.

As the first step in the reform process, members of the panel debated the merits and shortcomings of each section of the existing cooperative act. Changes considered necessary were put forward and further debated. This process helped the panel to form preliminary opinions and impressions on the changes needed.

Next, to find out the views of cooperative members on the direction of cooperative development, panel members carried out a survey of cooperative members. Views of both members of primary societies and district unions were sought.

The findings of the survey were compiled and turned into specific reform proposals. The document summarizing these findings was then mailed back to primary cooperative societies and district cooperative unions for comments and feedback. Based on the feedback obtained, the UCA revised the document.

The revised document summarizing the findings and proposed reforms was next circulated to cooperative experts, lawyers, and the faculty of the Makerere University for comments. In light of their feedback, the document was revised once more.

Finally, a workshop was arranged to review the document and prepare a draft of proposed reforms of the cooperative legislation. Members of the panel, cooperative experts, and staff of the Ministry of Cooperatives and Marketing participated in the workshop. The workshop synthesized all the material and produced a list of proposed reforms. These proposed reforms were later turned into the Cooperative Statute.

All this effort bore fruit in 1991, when the new law was successfully introduced and passed by the Ugandan National Assembly.

To conclude, institutional reform is not an easy task: there are no blueprints that demonstrate the path to reform. There are, however, some reform principles that can be used to guide the reform process and make it successful.

Bibliography

- Clague, Christopher (1997), Institutions and Economic Development: Growth and Governance in Less-Developed and Post-Socialist Countries, The Johns Hopkins University Press.
- Dieng, Moussa (1997), "Water Supply from Wells Equipped with Hand Pumps," case study presented at the World Bank International Workshop on Rural Infrastructure.
- Hardin, Garrett (1968), "The Tragedy of Commons," *Science* 162.
- Isham, Jonathan and Satu Kähkönen (1996), "Improving the Delivery of Water and Sanitation: A Model of Coproduction of Infrastructure Services," IRIS Working Paper Series No. 210.
- Isham, Jonathan and Satu Kähkönen (1997), "When It Takes More Than a Village: Coproduction of Rural Water and Sanitation Services," paper presented at the World Bank International Workshop on Rural Infrastructure.
- Isham, Jonathan and Satu Kähkönen (1998), "Rules of the Game, Social Capital, and the Performance of Community-based Water and Sanitation Services: Evidence from Sri Lanka and Indian Villages," mimeo.
- Kabuga, Charles (1994), "New Legislation Driven by Cooperatives in Uganda," in "Farmer Empowerment in Africa Through Farmer Organizations: Best Practices," AFTES Working Paper.
- Kessides (1993), "Institutional Options for the Provision of Infrastructure," World Bank Discussion Paper, No.212, World Bank, Washington, DC.
- Korten, David (1980), "Community Organization and Rural Development: A Learning Process Approach," *Public Administration Review*, Sept/Oct.
- Olson, Mancur (1965), The Logic of Collective Action, Cambridge, MA: Harvard University Press.
- Olson, Mancur and Satu Kähkönen (1998), A Not-so-dismal Science: A Broader Approach to Economies and Societies, Oxford University Press, forthcoming.
- Ostrom, Elinor (1990), Governing the Commons: The Evolution of Institutions for Collective Action, Cambridge University Press.
- Ostrom, Gardner, and Walker (1994), Rules, Games, and Common Pool Resources, Ann Arbor: The University of Michigan Press.
- Ostrom, Elinor (1995), "The Institutional Analysis and Development Approach," mimeo.

- Ostrom, Elinor (1996), "Crossing the Great Divide: Coproduction, Synergy, and Development," *World Development*, Vol. 24, No.6.
- Picciotto, Robert (1997), "Putting Institutional Economics to Work: From Participation to Governance," in Clague (ed.), Institutions and Economic Development: Growth and Governance in Less-Developed and Post-Socialist Countries, The Johns Hopkins University Press.
- Rietbergen-McCracken, Jennifer and Deepa Narayan (1997), "Participatory Tools and Techniques: A Resource Kit for Participation and Social Assessment," The World Bank.
- Samuelson, P.A. (1954), "The Pure Theory of Public Expenditure," *Review of Economics and Statistics*, 36.